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<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/698,962	CASCIANI ET AL.	
	Examiner	Art Unit	
	Eric F. Winakur	3768	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Appeal Brief filed 22 October 2007.
2. ☒ The allowed claim(s) is/are 72-75 and 84-86.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
|---|---|

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Claims 72 and 84 are allowable, in view of the amendments below. Per USPTO procedure, the restriction requirement between species, as set forth in the Office action mailed on 3/21/05, has been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). **The restriction requirement is hereby withdrawn as to any claim that requires all the limitations of an allowable claim.** Claims 73 - 75 and 85 - 87, directed to alternate species are no longer withdrawn from consideration because the claim(s) requires all the limitations of an allowable claim.

In view of the above noted withdrawal of the restriction requirement, applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

3. Authorization for this examiner's amendment was given in a telephone interview with W. Allen Powell on 4 January 2008. Applicant agreed to amend the claims to clarify that the method detects light that has interacted with a time-varying blood supply and calculates the blood oxygen reading using a pulse oximetry algorithm. Claim 75 was amended to conform to the language of claim 72; Applicant agreed to cancel claim 87 which had limitations inconsistent with claim 84 from which it depended. In addition, the status identifiers of claims 73, 74, and 86 are updated.

The application has been amended as follows:

In the specification, the first sentence was amended as follows to update the status of the parent application:

This application is a continuation of US Application No. 09/882,371, filed June 14, 2001, now US Patent No. 6,662,033, which is a continuation of US Application No. 09/003,413, filed January 6, 1998, now US Patent No. 6,272,363, which is a continuation of US Application No. 08/413,578, filed March 30, 1995, now US Patent No. 5,782,237, which is a continuation-in-part of US Application No. 08/221,911, filed April 1, 1994, now US Patent No. 5,421,329, the disclosures of which are incorporated herein by reference.

Claim 72 was amended as follows:

72. A method for measuring blood oxygen saturation comprising:  
emitting light from at least one light source;

detecting a plurality of light spectrums having time-varying components from the light with at least one detector subsequent to the light being scattered by tissue, the plurality of light spectrums including a first light spectrum having a wavelength between 725 and 745 nanometers and a second light spectrum having a wavelength between 880 and 940 nanometers; and

calculating a blood oxygen saturation reading using a pulse oximetry algorithm based on the plurality of detected light spectrums.

In claim 73, line 1, the status identifier “(withdrawn)” was changed to -- (previously presented) --.

In claim 74, line 1, the status identifier “(withdrawn)” was changed to -- (previously presented) --.

Claim 75 was amended as follows:

75. The method of claim 74, comprising selecting a pair of light spectrums from the first, second and third light spectrums based on an estimated oxygen saturation for use in [determining a calculated oxygen saturation value] calculating the blood oxygen saturation reading.

Claim 84 was amended as follows:

84. A method for measuring blood oxygen saturation comprising:

emitting a first light, the first light having a wavelength between 725 and 745 nanometers;

emitting a second light, the second light having a wavelength between 880 and 940 nanometers;

detecting the first light with a detector subsequent to the first light being scattered by tissue and interacting with a time-varying blood supply; and

detecting the second light with the detector subsequent to the second light being scattered by the tissue and interacting with a time-varying blood supply; and

calculating a blood oxygen saturation reading using a pulse oximetry algorithm based on the detected first light and the detected second light.

Claim 85 was amended as follows:

85. The method of claim 84, comprising:

emitting a third light having a wavelength of approximately 660 nanometers; and

detecting the third light with the detector subsequent to the third light being scattered by the tissue and interacting with a time-varying blood supply.

In claim 86, line 1, the status identifier “(withdrawn)” was changed to -- (previously presented) --.

Claim 87 was cancelled.

4. The following is an examiner's statement of reasons for allowance: As Applicant had noted in previously presented arguments, Lewis et al., while directed to an oximeter for measuring blood oxygen saturation in a subject's brain, is concerned with measuring saturations (including those of venous blood) in a setting having a non-pulsatile blood supply. As such, Lewis et al., while relying upon a measurement that includes a 735 nm light source, does not analyze the detected measurement values using a pulse oximetry algorithm. Further, Lewis et al. indicate that their desired measurement would not yield accurate results if analyzed with a pulse oximetry algorithm. In addition, while pulse oximeters (for measuring arterial oxygen saturation) that operate at 660 nm and 880 or 940 nm are known, there is no suggestion in Lewis et al. or the other prior art to modify such a pulse oximeter to change the 660 nm light source to or include an additional one that operates between 725 and 745 nm.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

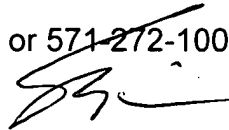
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric F. Winakur whose telephone number is 571/272-4736. The examiner can normally be reached on M-Th, 7:30-5; alternate Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571/272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Eric F Winakur  
Primary Examiner  
Art Unit 3768